**Action Research: Implementation and Assessment for Restoration-Based Environmental Education**

UW-Madison Arboretum

Dept of Curriculum and Instruction

Spring/Summer 2012

**Group Assignments**

**Group members: Angela, Deb, Lynessa**

**Due by February 10 by 9 a.m.**

**Case Studies: Action Research Steps and Types of Approach**

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| Name of Case Study | Type of Action Research Approach:   * Individual teacher * Collaborative * Schoolwise * Combination | What is the problem being researched? | What topics did the author read in the literature review? | List the data collection methods  (survey, student work etc.) the author used | Briefly describe their data analysis method | Synopsis of results or findings | Briefly describe the author’s next action steps |
| An Action Research Project: Outdoor Journaling and Classroom Behavior | Collaboration (2 teachers) | Does 30 minutes of outdoor educational activity influence the overall behavior of students during the afternoon? | Coping with ADD  Environment  Behavior  Stressors in Children | Survey (Student/Staff)  Behavior charting  Observation  Student journals | The teachers used a behavior chart and documented results on all days. They then compared it with the days that they went outside. The teachers also charted on task behavior, attention span, awareness and disruptive behavior. | Overall the writing became more in depth throughout the process.  The transitions were hard for the EBD kids but the whole overall experience was positive. | They will share their information with staff.  Attempt to make journaling a routine. |
| Action Research: Improving Student Achievement through a Restoration Project | Individual | Can an EPS restoration project be used to teach specific Maryland state curriculum objectives that the students have not mastered during the course of instruction with the regular curriculum? | Environmental education policy  Standardized tests  Outdoor education  Green schools | Pre & Post Tests  Student interviews  Student work samples | Analyzed student growth through pre and post testing. Interviewed students regarding motivation and learning outcomes. Looked at the quality of student work samples and compared Sept. to April. | Students enjoyed the restoration project and most learning objectives were met. Teachers and students felt this was a worthwhile learning opportunity. Overall their writing improved also. | Continue to develop this curricular unit. |
| A Walk in the School Woods: An Action Research Project | Collaborative | Can time outdoors in nature help at risk students to moderate their behavior and improve their time on task in the classroom? | Love of Nature  Environment and Behavior  Children’s relationships with Nature  ADD/ ADHD | Teacher Surveys  Pre & Post Mentor Findings | Teacher used recommendations from the classroom for children with hyperactivity to take mentored walks in the school woods. Teacher filled out feedback forms and comment on students behavior and performance post the mentored walk. | Intervention was most effective in facilitating calmness in students and showed less consistent results for improved on task behavior. | Continue regular walks as part of school day schedule. Start stewardship activities woven into outdoor environmental lessons. |
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**Due by February 24 by 9 a.m.**

What are three key characteristics of the critical friends process? What are you learning by doing the critical friends process?

Three key features of the critical friends process include:

1. Engaging in cooperative small group (4-7 members) learning which creates a learning community.
2. Finding solutions through thoughtful listening and questioning with “warm”, “cool” or “hard” feedback from group members.
3. Defining roles to include facilitator, presenter and discussants.

Through this process, we are being both supported and challenged to grow as learners. While taking on different roles and discussing each other’s problem statements, we become comfortable sharing solutions and creating more questions. The feedback and reflection feels very supportive and provides practical suggestions.

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**Due by March 9 by 9 a.m.**

Where are you finding useful articles – name 3 sources? Where are there gaps in information that you need?

We are finding articles through the ERIC and EBSCO host search engines. Deb has found some in ELL journals. The Children and Nature site has numerous useful articles as well. As we find materials, we share with each other what may be useful. At this point in our research, we are not noticing any gaps, although we have just begun our searches.

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What data collection instruments did you discuss? What are the important qualities of data collection? How are you going to establish validity?

We discussed the use of interviews, surveys, pre and post assessments, journals and checklists or rubrics. We also discussed having photos or videos to document our data.

Important qualities of data collection are that the data has to be measurable, reliable and valid. When choosing data collection tools, we must ask ourselves three questions. They are:

1. Do the instruments and methods measure what we claim they do?
2. Do they accurately measure the question we are studying?
3. Will a skeptic be convinced of our data outcomes?

In order to establish validity, one must ask if the data really measures or represents what we say it does. We will pay special attention to the amount of data that we collect because of the short duration of the class. We will triangulate our data by meshing the multiple tools that we use. When reporting out our data, we will be sure to be explicit in both the process and the results.

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**Due by April 6 by 9 a.m.**

What data collection instruments did you discuss, and how did they change after getting peer feedback?

**Deb**—developed a rubric to be used for evaluating journal entries at the beginning of the project, mid-way through the project and at the end. Other data collections instruments include pre-post student survey of writing attitudes and perceived strengths/weaknesses and district writing evaluation rubric.

**Angela—**due to medical circumstances, Angela will do a staff survey through survey Monkey/e-mail rather than a student survey. Data collection instruments will include staff survey and staff interviews via e-mail.

**Lynessa-** From feedback that I received in class and in my small group, I added to my preassessment. I also decided to use one of the fourth grade classes to use the extra activities on and then one group will just get the Einstein kit so that I can see if the activities affect the outcome.

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**Due by April 27 by 9 a.m.**

Describe two different ways to analyze data.

One way to analyze data is to organize, code, and label it according to themes, sub-groups and ideas, noting patterns, questions, new ideas and surprises that emerge from the data. Coding involves assigning a number or value to responses to identify themes and patterns. Once the information is coded, it can be further analyzed for frequency and powerful and interesting comments or behaviors. Major points can be recorded by theme, type of data collected or chronologically making sure to include evidence to support the findings.

A second data analysis method involves creating a matrix on which to record responses to survey questions, comments or behaviors observed. This is a visual way to analyze data. Across the top of the matrix would be themes of categories discovered during the skimming stage. Down the vertical axis are the scores, responses or behaviors.

In all methods of data analysis it is important to identify themes and determine how the data supports those themes.

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**Due by May 11 by 9 a.m.**

What project report or class presentation did you discuss, and how did they change after getting peer feedback?

We discussed Lynessa’s project on the water cycle. Some feedback that was given and changes were made were to take her preassessment and give a slide for each question. By doing this, we got a better understanding of how her students responded to each of the preassessment questions.